REMARKS

Prior to the above Amendments, claims 11-20 were pending. With this Response, no claims have been amended. Thus, claims 11 - 20 are now at issue.

Online Video Available for Viewing

Applicant would like to bring to the Examiner's attention the following link, which depicts at least one embodiment of the present invention:

http://you.video.sina.com.cn/wishscience

Applicant believes that, although the audio is in Chinese language dialect, the video may be useful to the Examiner in better understanding the present invention.

35 U.S.C. § 102 Rejection of Claim 11

In this Office Action, the Examiner rejected claim 11 under 35 U.S.C. § 102 based on WO 2001094702. Applicant provides the following arguments:

1. The cited reference discloses a multi-layer road system, comprising: multilevel roads comprised of at least two floors between which an inter-floor road is formed (refer to claim 1, line 27-30, page 6 and Figs. 1, 2, 6, 7 in reference 2). Thus, the technical arrangement of the multi-layer road system of the cited reference actually comprises at least three layers; whereas claim 11 of the present application requires a technical arrangement including a full interchange urban road system with a double-layer road structure, in which one layer is a motor way on the ground and another layer is a footway. These differences are clear from the review of the cited reference.

2. The cited reference also discloses a multi-layer road system which can be maintained at a certain height from the ground surface, as needed, so that the ground surface may become spaces for securely functioning as an ordinary total living space and giving conveniences

to citizens (refer to lines 14-18, page 16 and Figs. 1, 20, 21, and corresponding portions of the specification). Thus, the technical arrangement of the cited reference discloses a multi-layer road system at a certain height from the ground surface; whereas claim 11 of the present application requires a technical arrangement of a full interchange urban road system with a double-layer structure in which one layer is a motor way on the ground and another layer is a footway at a certain height from the motor way, the urban road system required by claim 11 being based on the ground surface. This is a significant difference from the technical arrangement of the cited reference.

3. The cited reference discloses a multi-layer road system with a width and substantially corresponding layers (refer to specification and Figs. 1, 2, 6, 7); whereas claim 11 of the present application requires a technical arrangement of a full interchange urban road system with double-layer structure in which one layer is a motor way on the ground and another layer is a footway at a suitable elevation above said motor way, wherein the footway has a width substantially corresponding to the motor way, and/or each side of the motor way, and both sides of the footway are connected with a passageway.

In summary, each and every element of claim 11 of the present application is not described by the cited reference. Thus, claim 11 is novel over the cited reference and should be allowed.

35 U.S.C. § 102 Rejection of Claims 12-20

All of the remaining dependent claims refer directly or indirectly to claim 11, and necessarily include all the elements of claim 11. Thus, based on the above-discussed remarks, all of the remaining dependent claims are novel as well.

Additional Comparison Between the Present Application and the Cited References

The cited references disclose a technical arrangement of a multi-layer road system, which is substantially different from the present invention.

First, the technical arrangement in the cited reference is more complicated with at least seven (7) substantial defects relating to the present application.

1. The cited reference discloses a high cost multi-layer road structure. Every elevated road costs at least twice of the road paved on the ground. Thus, multi-layer elevated road systems cost much more. In addition, multi-layer elevated road systems must be equipped with a large number of ramps for automobiles. Thus, economic feasibility is poor, especially as the number of layers increase.

2. The traffic method used in the multi-layer road system of the cited reference appears complicated. Ramps between each pair of floors or layers will require a turnaround radius that is not large enough for convenient driving. When the number of cars reach the saturation point, the ramps will become bottlenecks, inevitably causing traffic jams. Thus, technical feasibility of the cited reference is poor.

3. In the cited reference, it is very inconvenient to access the buildings on each floor and/or the parking lots. Thus, accessibility is poor.

4. The area for parking in the multi-layer road system of the cited reference is limited. Specifically, there are not enough parking spaces to locate the vehicles when the

number of such vehicles reaches the saturation point. Thus, significant parking problems will still exist.

5. The multi-layer road system in the cited reference takes up significant space, with a resulting oppressive effect on people who are on the ground. In addition, the sight and views of the city will also be destroyed.

6. The multi-layer road system of the cited reference, with multiple ramps, will cause significant power consumption and especially significant oil consumption, which will lead to significant pollution to the environment.

7. The multi-layer road system of the cited reference would be incredibly difficult to construct, the construction-time frame would be very long, and it would be especially difficult to adopt this multi-layer road system in the plan of an existing city.

Accordingly, there would be at least seven (7) benefits of the present invention, as compared to the cited reference.

1. In the present application, the motor way on the ground will easily link to the existing roads and will cost at most half of elevated road. Passengers and non-motor vehicles, which have low dynamic load, are located on the upper layer. This two-layer structure is simple and has significant economic feasibility.

2. The traffic method of the present application is further simplistic in view of only the fly-over type bridge being used. Minor arteries perform the function of ramps. Turnaround radius is large enough for faster driving throughout the system, without any circumambulation among the ramps, as is required by the ramps of the multi-level roads of the cited reference. Thus, the present method improves the traffic capacity by enlarging the area of the roads.

Therefore, traffic jams will not likely happen, even when the number of cars reach the saturation point. The technical feasibility is therefore significantly improved.

3. Accessibility is also improved through the convenience to reach the buildings and parking lots by minor arterials, at least based on the driving of cars on the ground.

4. In the present application, parking lots are located beside the roads and the aerial layer is arranged to easily help storing of cars, to meet the parking requirements without any excess driving distance when the number of cars reaches the saturation point. The supporting facilities are significant in this regard.

5. In the present application, people acting above the motor way will have a broad sight, with the cars driving on the ground. In addition, the sight and views of the city will be saved.

6. In the present application, cars remain on the ground and can easily be driven to parking lots using minor arterials without excess driving distance. This will save power, reduce oil consumption, and reduce pollution.

7. In the present application, the road system on the ground can easily be built in a short construction time frame. The footway can be produced in a factory and assembled locally. The motor way can be built with the same structure of the existing motor ways. The use of fly-over type bridges makes construction less complicated. Thus, the construction time period is shorter not only in a new city plan, but also in an existing city improvement plan.

Third, the technical scheme of the present application brings three substantial changes to the city, which cannot be found in the cited references.

1. Not only are traffic jams avoided, but parking problems are completely avoided in the present application. This is a direct result of the significant increase in the number of the

parking spaces. Thus, city structure is very compact, savings parks and other open space, in the present application.

2. Distance between locations is much shorter because of the compact structure. Walking and/or the non-motor vehicles increase the sharing rate of the traffic and decrease the pressure on the motor way. Meanwhile, oil consumption and exhaust emissions are reduced.

3. Roads and parking spaces are located on the ground only for cars. Whereas, people carry out their activities on the upper layer. This structure realizes the separation between cars and people without any impact on people. Meanwhile, the present invention also greatly improves traffic security and reduces traffic accidents.

Solving Traffic Jams and Parking Problems

1. Traffic jams are created when traffic capacity of a road in a certain area cannot meet the actual traffic requirements in the same area. Thus, if traffic capacity and actual traffic requirements for one square kilometer could be named traffic-supply-density (TSD) and traffic-demand-density (TDD), traffic jams can be simply expressed as occurring when TSD < TDD. In order to make sure a traffic system remains unblocked, the system must meet the requirement of: TSD > TDD.

2. Parking congestion occurs when the number of parking spaces is less than the holding quantity in a certain area. These two parameters are respectively called parking-supply-density (PSD) and parking-demand-density (PDD). Thus, parking congestion can be simply expressed as occurring when PSD < PDD. To solve this problem, PSD should be 20% percent higher than PDD.

The previous and below information is deduced from the following:

3. According to statistical data of 52 countries provided by the World Bank, the car-holding saturation point is 600 cars in every 1,000 persons, assuming there are 10,000 persons in every square kilometer. With these assumptions, the number of parking spaces should be about 7,200. Consequently, 14,400 parking spaces are required for each 20000 persons in every square kilometer.

4. Some data indicates that the average distance drive per day in most European countries is 60 kilometers, and the peak period for traffic will take up approximately 11% of each day. In view thereof and the above information, TDD=6,000*11%*60=40,000 car•kilometer/hour. Thus, 40,000 car•kilometer/hour is required in a city having 10,000 persons in every square kilometer. A nonuniform coefficient (about 1.25) should be considered, and thus, TDD is more than 50,000 car•kilometer/hour when applied to a real setting.

5. In the present invention, when the motor roads occupy more than 20% of the area of the city, TDD would be more than 80,000 car•kilometer/hour > 50,000 car•kilometer/hour. That is to say TSD > TDD.

6. Therefore, the traffic system of such a system will never be blocked. When parking spaces take up 40% of the area of a city, more than 10,000 or 20,000 would be provided when the first floor or the lowest two floors are built for parking. Thus, PSD > PDD, and parking congestion would be prevented.

Additional Drawings Added

The Examiner has requested additional drawings which show three dimensional or "perspective" views of the structure. Applicant provides several perspective views of the present invention to comply with the Examiners request. The specification has been amended to correspond to the new figures.

CONCLUSION

As set forth above, the present invention solves traffic and parking congestion when applying the technical arrangement of locating ways and parking lots on the ground in this present application. Thus, the above benefits achieved by the present application are the unexpected technical effects to solve many city issues. Therefore, the present invention is novel and includes inventive step.

Applicant requests entry of the present amendments and examination of the pending claims in view thereof. Commissioner is authorized to charge any fee deficiency, or credit any overpayments, to Deposit Account No. 502261. The Examiner is invited to contact the undersigned if the Examiner believes a telephone conference would expedite allowance of the present claims and application.

Respectfully submitted,

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